

APR. 1988  
No. 6462R

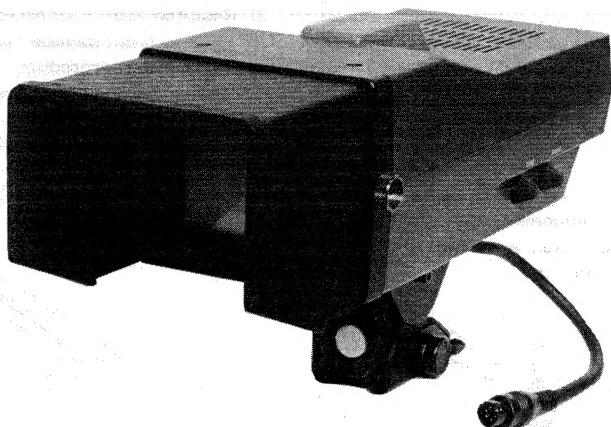
# **JVC Service Manual**

**STUDIO VIEWFINDER**

**MODEL VF-P400**

No. 6462R

# JVC Service Manual



MODEL

**VF-P400**

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# Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

## ● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the  symbol and shaded ( ) parts are critical for safety.

Replace only with specified part numbers.

**Note:** Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Use specified internal wiring. Note especially:

- 1) Wires covered with PVC tubing
- 2) Double insulated wires
- 3) High voltage leads

4. Use specified insulating materials for hazardous live parts. Note especially:

- 1) Insulation Tape
- 2) PVC tubing
- 3) Spacers
- 4) Insulation sheets for transistors

5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

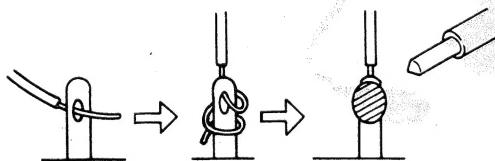


Fig. 1

6. Observe that wires do not contact heat producing parts (heat-sinks, oxide metal film resistors, fusible resistors, etc.)

7. Check that replaced wires do not contact sharp edged or pointed parts.

8. When a power cord has been replaced, check that 10–15 kg of force in any direction will not loosen it.

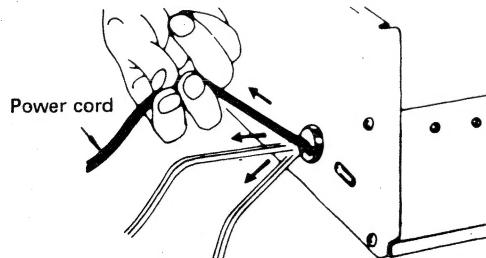


Fig. 2

9. Also check areas surrounding repaired locations.

10. Products using cathode ray tubes (CRTs)

In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

11. Crimp type wire connector

In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

1) **Connector part number :** E03830-001

2) **Required tool :** Connector crimping tool of the proper type which will not damage insulated parts.

3) **Replacement procedure**

(1) Remove the old connector by cutting the wires at a point close to the connector.

**Important :** Do not reuse a connector (discard it).

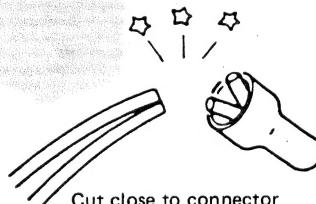


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

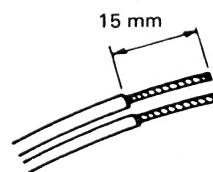


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

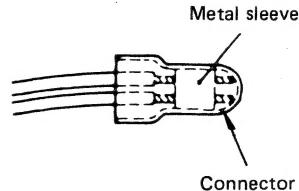


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

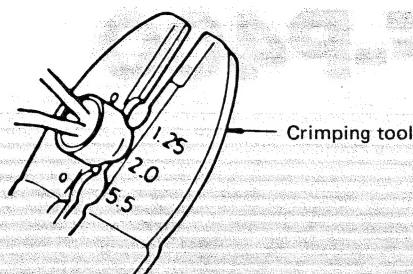


Fig. 6

(5) Check the four points noted in Fig. 7.

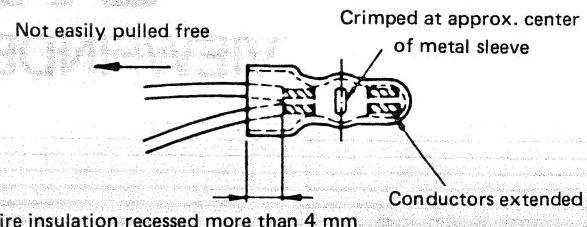


Fig. 7

## ● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

### 1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

### 2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table below.

### 3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table below.

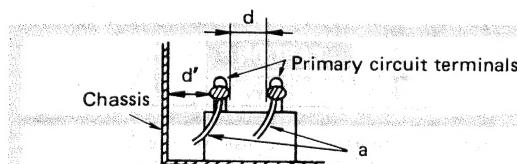


Fig. 8

### 4. Leakage current test

Confirm specified or lower leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

#### Measuring Method: (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure and following table.

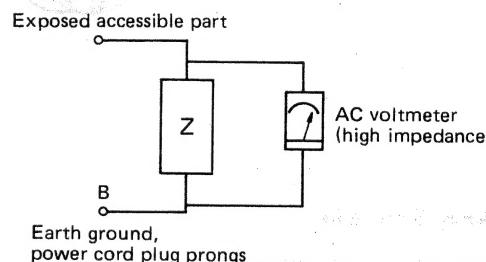


Fig. 9

AC Line Voltage	Region	Insulation Resistance	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$\geq 1 \text{ m}\Omega/500 \text{ V DC}$	1 kV 1 minute	$\geq 3 \text{ mm}$
110 to 130 V	USA & Canada	—	900 V 1 minute	$\geq 3.2 \text{ mm}$
*110 to 130 V	Europe	$\geq 10 \text{ m}\Omega/500 \text{ V DC}$	3 kV 1 minute	$\geq 6 \text{ mm (d)}$
200 to 240 V	Australia		4 kV 1 minute	$\geq 8 \text{ mm (d')}$ (a: Power cord)

\*Class II model only.

Table 1 Ratings for selected areas

AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (b) to:
100 V	Japan	$\text{---} \parallel \text{---} \parallel 1 \text{ k}\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F} \parallel 1.5 \text{ k}\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe Australia	$\text{---} \parallel 2 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
		$\text{---} \parallel 50 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

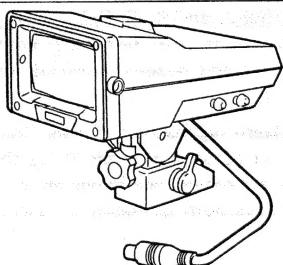
Table 2 Leakage current ratings for selected areas

Note: This table is unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

# JVC | Instructions

## VIEWFINDER

## VF-P400



## POWER SYSTEM

### Connection of power supply

The VF-P400 viewfinder is designed only for connection to the KY-15/20 series color video cameras. Power is supplied from the camera.

**WARNING:**

**TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

**This unit should be used with 12 V DC only.**

**CAUTION:**

**To prevent electric shocks and fire hazards, do NOT use any other power source.**

**For Customers Use:**

Enter below the Serial No. which is located on the bottom of the cabinet. Retain this information for future reference.

Model No. **VE-P400**

100-72887-10



The lightning flash with arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Thank you for purchasing the JVC VF-P400 electronic viewfinder.

The VF-P400 has an under-scanned 94 mm (4" diagonal measurement) picture tube for studio use with the JVC KY-15/20 series color video cameras.

To gain maximum benefit from the use of the VF-P400 it is suggested that you study this booklet carefully.

## CONTENTS

Features	2
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Specifications	6

## FEATURES

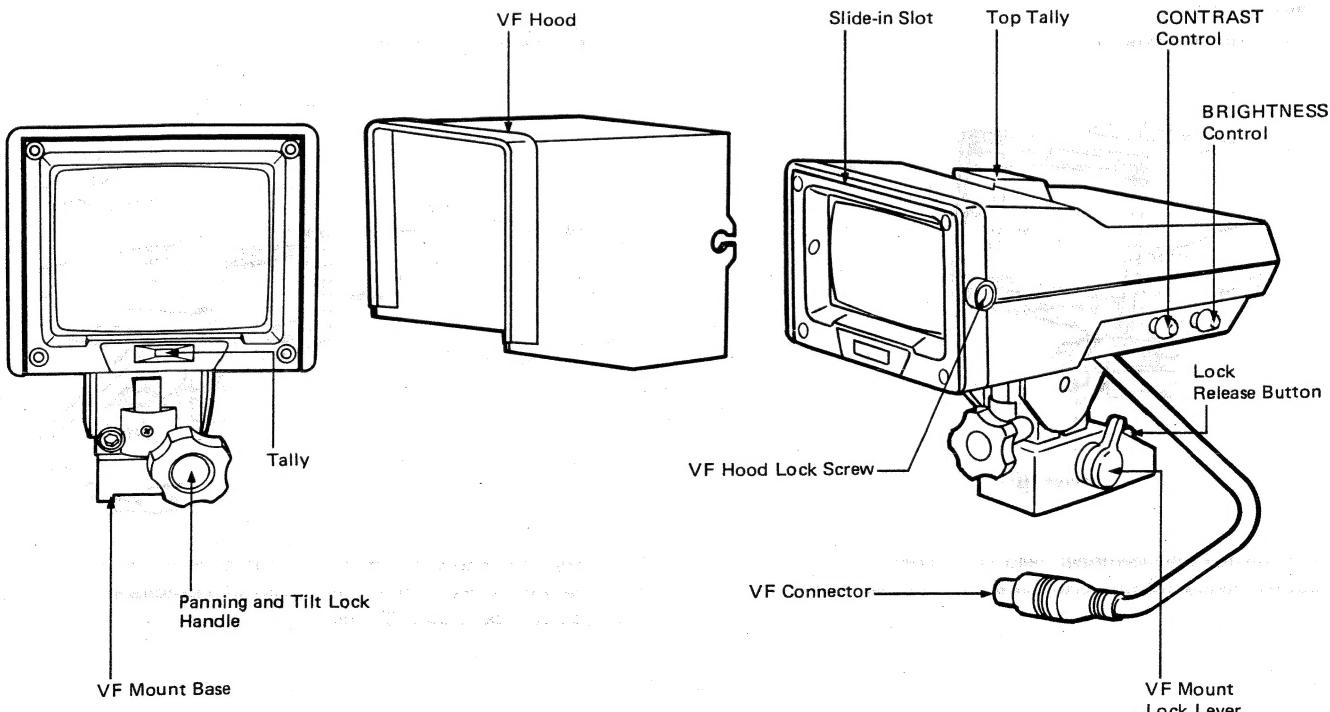
- Easily mounted onto, or removed from, the KY-15/20 series video cameras.
- Friction tilt mechanism allows downwards/upwards vertical movement; also, left/right horizontal settings are possible.
- Tally lamps provided on the top and front near the CRT.

## PRECAUTIONS

- Do not allow inflammables, water or metallic objects to get inside the viewfinder, as this will cause damage or malfunctioning.
- High voltage developed inside the viewfinder is dangerous.

- 2 -

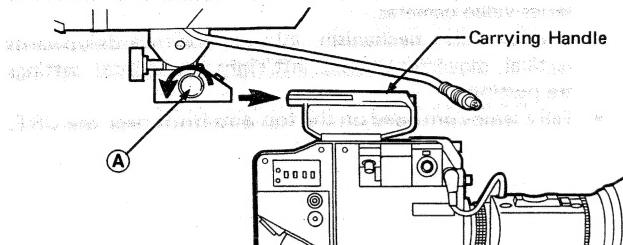
## CONTROLS, CONNECTORS AND INDICATORS



- 3 -

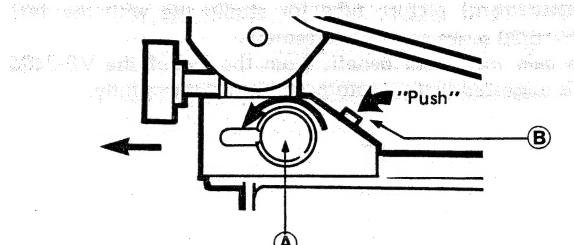
## CONNECTION AND OPERATION

### ■ MOUNTING ONTO CAMERA HEAD



1. Turn the VF mount lock lever **A** counterclockwise (↖).
2. Insert the viewfinder from the back of the camera, aligning the mount key with the carrying handle on the Camera.
3. Turn lock lever **A** clockwise (↗) to fix the carrying handle.
4. Connect the viewfinder connection cable to the connector on the camera head. Be careful not to damage key pin of the connector.

### ■ REMOVING THE VIEWFINDER

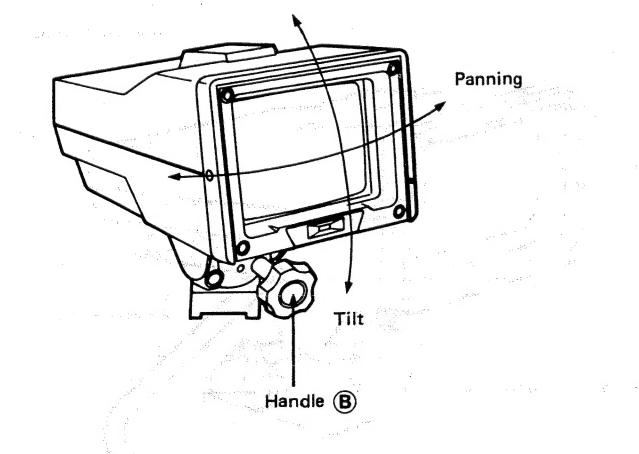


1. Turn lock lever **A** counterclockwise (↖).
2. While holding lock release button **B** depressed, slide the viewfinder out toward the back of the camera.

- 4 -

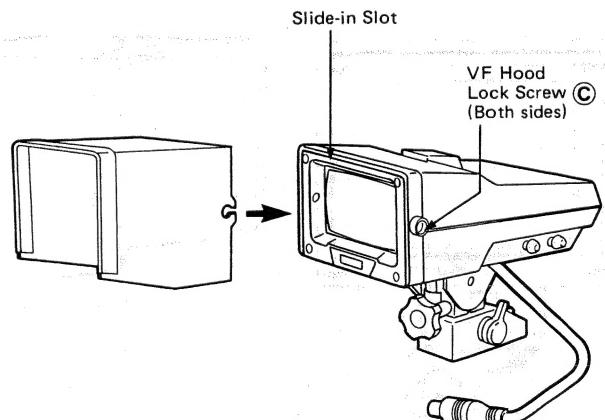
### ■ OPERATION

#### • Adjusting the position



1. Tilt and pan the viewfinder head as required. Loosen handle **B** and secure after positioning.

#### • Attaching the hood



1. Insert the hood in such a way that its front ribs fit over the slot on the front of the viewfinder escutcheon.
2. Secure lock screws **C** after insertion.

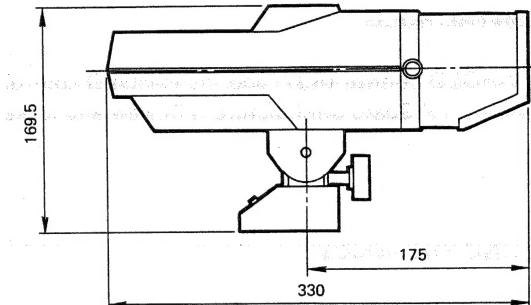
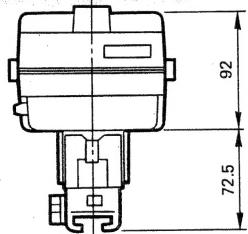
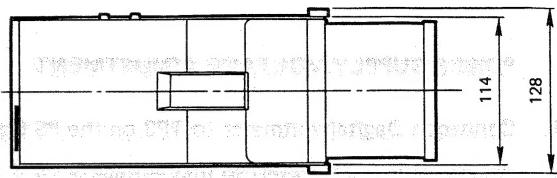
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## SPECIFICATIONS

Input signal	: Composite video, 1 Vp-p, high impedance
CRT	: 94 mm (4") diagonal
Resolution	: More than 500 lines
Tally lamps	: Top; filament lamp (12 V) Screen side; L.E.D.
Power consumption	: 12 V DC, 750 mA (provided from video camera)
Ambient temperature range	: -20°C to +50°C (-4°F to +122°F)
Weight	: 1.8 kg (4 lbs)
Accessory	: Viewfinder hood

*Design and specifications subject to change without notice.*

## Dimensions



Unit: mm

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**JVC**

VICTOR COMPANY OF JAPAN, LIMITED

## SECTION 2 ADJUSTMENT PROCEDURE

### 2.1 POWER SUPPLY VOLTAGE ADJUSTMENT

1. Connect a Digital voltmeter to TP2 on the PS Board.
2. Adjust +9 V ADJ (R204) so that voltage is  $+9\text{ V} \pm 0.1\text{ V}$ .

### 2.2 ADJUSTING THE VERTICAL HOLD AND THE HORIZONTAL HOLD

Adjust V-HOLD control (R37) and the H-HOLD control (R56) on the VF Board until picture is in view and locks.

### 2.3 ADJUSTING THE FOCUS

1. Set the FOCUS control (R104) on the HV Board for best overall definition and picture detail.
2. Reducing the brightness, check to make sure focus is satisfactory at all brightness levels.

### 2.4 ADJUSTING THE VERTICAL HEIGHT AND HORIZONTAL WIDTH

1. Set the receiving picture to crosshatch or a pattern with which symmetry can be checked.
2. Reduce the vertical size with the V-HEIGHT control (R50) on the VF Board.
3. Adjust the H-WIDTH (L101) on the HV Board so that the picture is just scanned on the screen.
4. Readjust the rotation of deflection yoke and centering magnet so that the picture is just scanned on the screen.

Refer to Fig. 2-1.

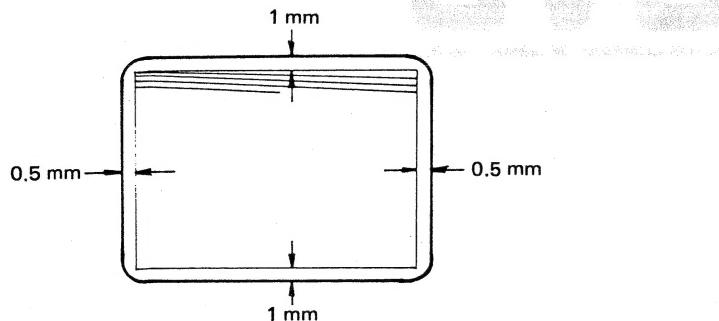


Fig. 2-1

### 2.5 ADJUSTING THE LINEARITY AND CENTERING

1. Adjust the H-LIN (L102), V-LIN (R51), H-WIDTH (L101) and V-HEIGHT (R50) so that the picture circle to be circle and just the size in the picture screen.
2. Adjust the centering magnets of deflection yoke to centerize the picture.
3. Adjust the vertical linearity with the V-LINE. control (R51) on the VF Board.

## SECTION 3 DISASSEMBLY

### 3.1 REMOVAL OF TOP COVER

1. Remove two screws ① on the bottom.

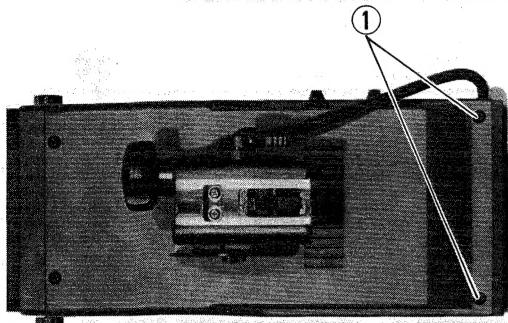


Fig. 3-1

2. Remove two screws ② on the top cover.  
Remove the top cover upwards.

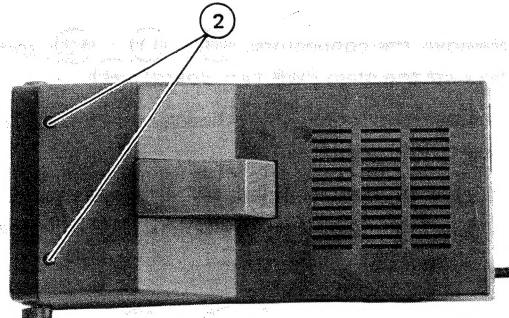


Fig. 3-2

3. Note for tally lamp connector ③ and remove it on the PWB plug.

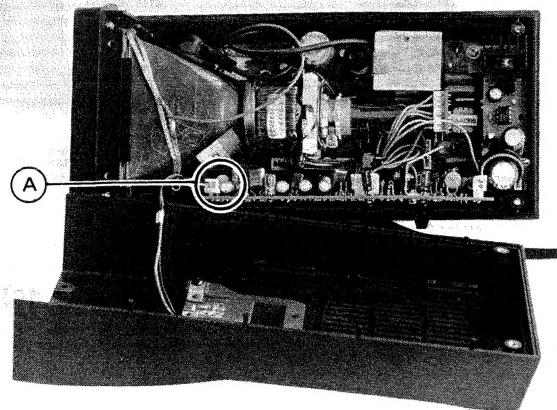


Fig. 3-3

### 3.2 REPLACEMENT OF TALLY LAMP

1. Remove two screws ③, then remove the PL board ④.
2. Pull the lamp up from its socket pins.

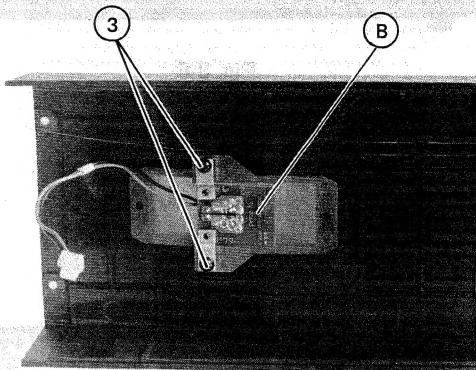


Fig. 3-4

### 3.3 REMOVAL OF CRT

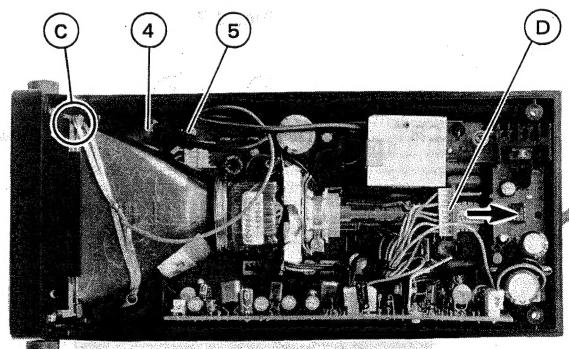


Fig. 3-5

1. Remove the top cover as referring to 3.1 REMOVAL OF TOP COVER.
2. Discharge the anode ④ to CRT grounding ③.
3. Remove the anode cap ④ from CRT anode.
4. Remove CRT SOCKET PWB ⑤ backward.
5. Remove grounding wire (green wire) from grounding terminal screw ⑥.

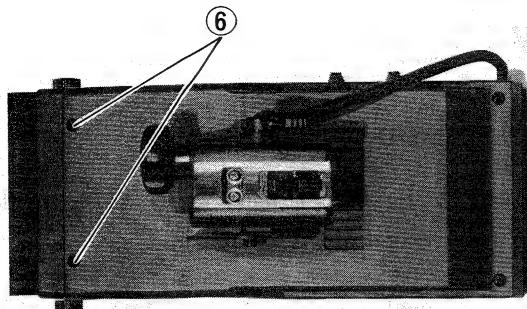


Fig. 3-6

6. Remove two screws ⑥ on the bottom.

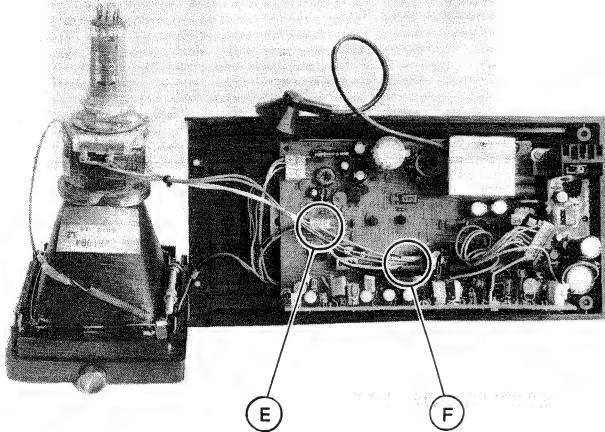


Fig. 3-7

7. Remove the connectors ⑩ and ⑪.
8. Remove CRT with the escutcheon panel as shown in Fig. 3-8.

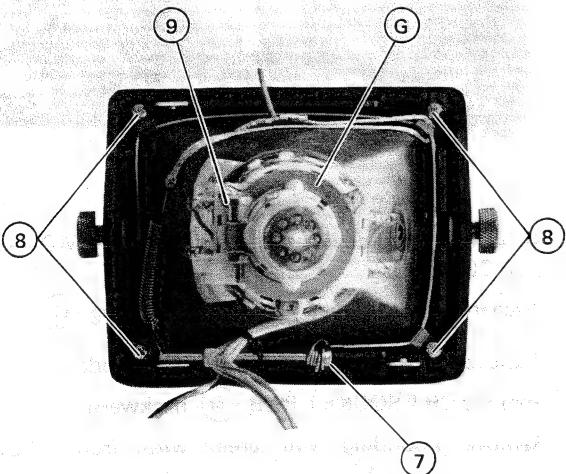


Fig. 3-8

9. Loosen a screw ⑦ and remove four screws ⑧ with hooks.
10. Remove the CRT from escutcheon panel.
11. Loosen a screw ⑨ and take off the deflection coil ⑩.

### 3.4 REMOVAL OF CIRCUIT BOARDS

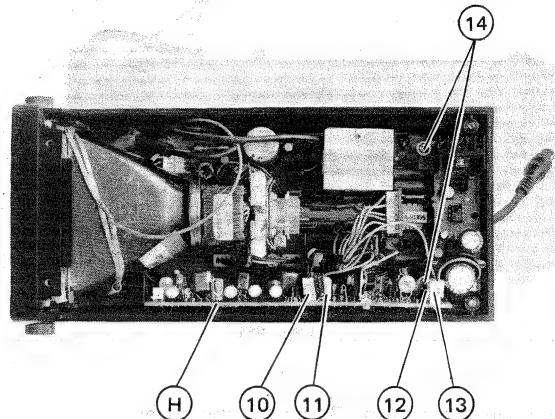


Fig. 3-9

1. Remove the connectors ⑩, ⑪, ⑫ and ⑬ to take off the main PWB (VF Board) ⑭.
2. Remove two screws ⑯, then remove POWER SUPPLY Board (PS Board).
3. In case of removing the HV Board, remove the CRT first as referring to 3.3 REMOVAL OF CRT item 1. to 6..

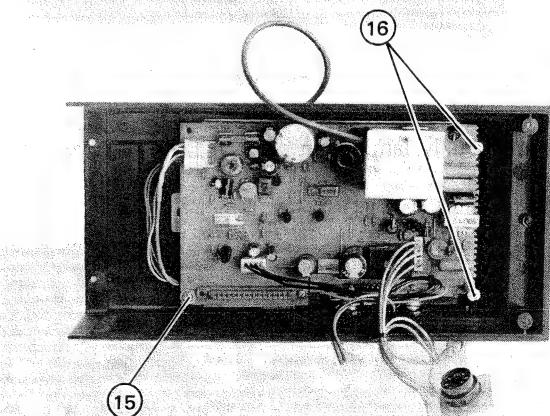
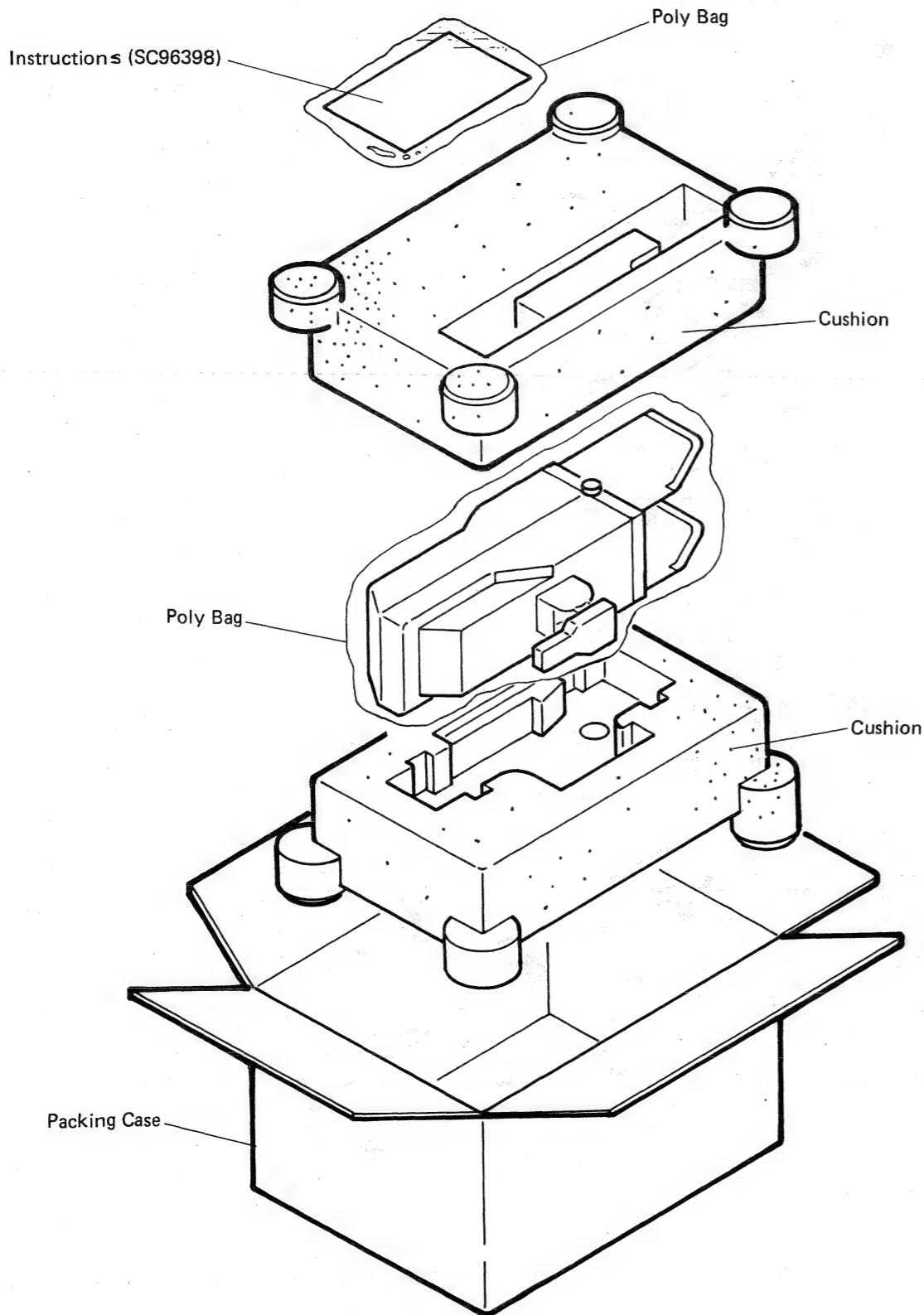


Fig. 3-10

4. Remove the screw ⑮ and two studs ⑯, then remove the HV Board.

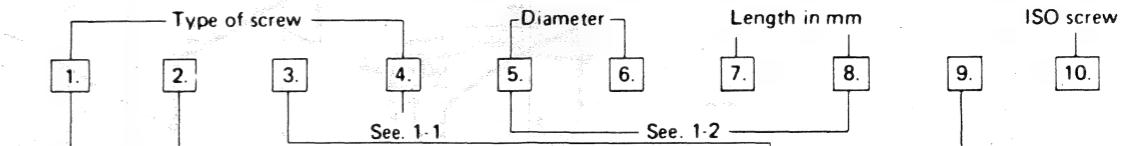
## SECTION 4 REPACKING

### 4.1 REPACKING



## SECTION 5 EXPLODED VIEW AND PARTS LIST

Note: Replacing marked  $\Delta$  parts, be sure to use parts specified for safety purposes.  
In this exploded view the part number of the screws and washers designate the type and dimensions\* of those items.  
The following examples will help you to decipher them.



Type of screw	
1.	2.
3.	4.
5.	6.
See. 1-1	
See. 1-2	

Shape of head	
P	Pan head
S	Flat countersunk head
H	Oval countersunk head
D	Binding head
R	Round head
B	Round head
T	Truss head

Material	
Symbol letter	Material
S	Steel
E	Stainless steel
C	Cast iron
U	Bronze
B	Brass
P	Phosphor bronze
N	German silver
Y	Brass
A	Aluminum
Z	Zinc-alloy
K	Polycarbonate

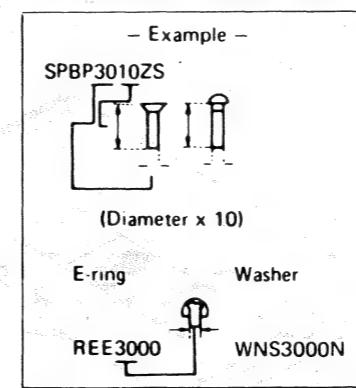
### 1-1 Type of screw

P	Cross-Recessed head screw
A	Tapping screw
B	Tapping screw
T	Tapping screw
E	Tapping screw

### Surface treatment

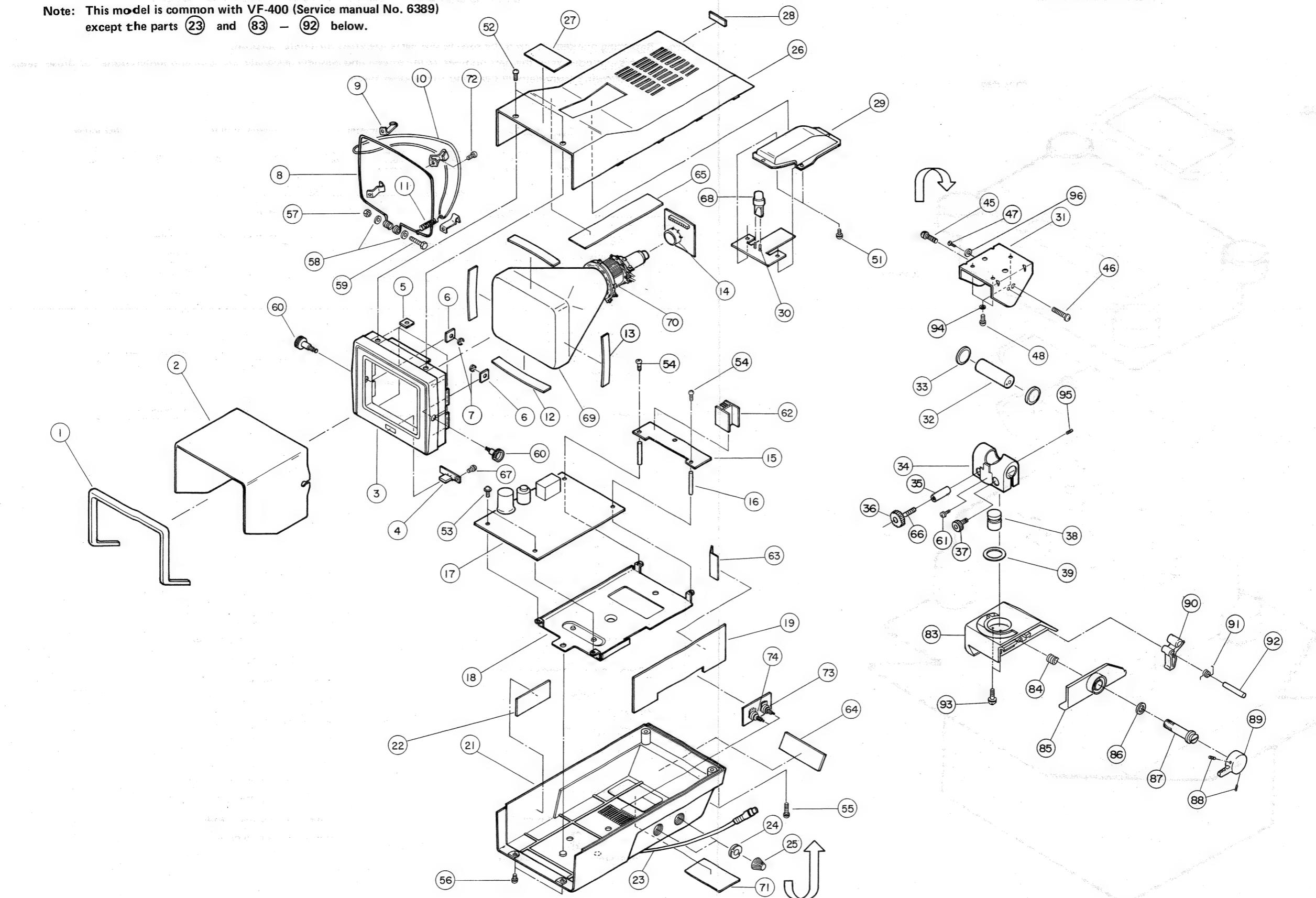
Symbol letter	Surface treatment
Z	Galvanization, dichromic acid treatment (MFZn2-C)
N	Nickel plating (MFNi2, MFNi1)
R	Chrome plating (MBCr2, MBCr1)
G	Silver plating (SP4)
W	Nichrome platings
P	Phosphite treatment
B	Bronze plating
M	Black coloring after galvanization
A	Red coloring after galvanization
C	Blue coloring after galvanization
T	Green coloring after galvanization
V	Violet coloring after galvanization
F	Iron with black coloring

### 1-2 Diameter and Length of screw



## 5.1 EXPLODED VIEW M1

**Note:** This model is common with VF-400 (Service manual No. 6389) except the parts (23) and (83) — (92) below.



● VF-P400 Assembly list

M1MM□□□

Symbol No.	Part No.	Part Name	Description
1	SC30574-001	Rubber	
2	SC20179-001	Hood	
3	SC20180-001	Front Cover	
4	SLB-26UR19	LED	
5	SC40022-002	Plate	
6	SC41667-001	"	
7	REE2000	E-Washer	
8	SC30577-001	Holder	
9	SC41596-002	Hook	
10	QWX 102-200	Braided Wire	
11	55246	Spring	
12	SC41701-002	Cushion	
13	SC41701-003	"	
14	SCVO036-001	CRT Socket	
15	Not Available	PS Board	
16	SC41594-001	Stud	
17	Not Available	HV Board	
18	SC30576-001	Chassis	
19	Not Available	VF Board	
20	Not Available	VR Board	
21	SC10050-001	Bottom Case	
22	SC41252-001	Caution Label	
23	SCMO080-00B	VF Cable	
24	SC40916-001	Nut	
25	SC40917-001	Knob	
26	SC10049-001	Upper Case	
27	SC41058-006	Caution Label	
28	SC40624-002	JVC Logo	
29	SC30575-001	Tally Cap	
30	Not Available	PL Board	
31	SC30578-002	Base	
32	SC41665-002	Shaft	
33	SC41668-001	Spacer	
34	SC30579-002	Holder	
35	SC41666-001	Pipe	
36	SC41672-001	Knob	
37	BYS6020M	Screw	M6 x 15
38	SC41675-002	Shaft	
39	SC41671-001	Spacer	
40	-	-	
41	-	-	
42	-	-	
43	-	-	
44	-	-	
45	BYS4010M	Screw	M4 x 10
46	"	"	M4 x 10
47	BYS2606M	"	M2.6 x 6
48	SDSP3008M	"	M3 x 8
49	-	-	
50	-	-	
51	SBSB3008Z	"	M3 x 8
52	SDSP3008M	"	M3 x 8
53	DPSP3006Z	"	M3 x 6
54	SPKP3006-9	"	M3 x 6
55	SDSP3030M	"	M3 x 30

Symbol No.	Part No.	Part Name	Description
56	SDSP3008M	Screw	M3 x 8
57	NNS3000N	Nut	
58	WNS3000N	Lock Washer	
59	SDSP3030M	Screw	M3 x 30
60	SC41669-001	"	
61	SDSP3008M	"	M3 x 8
62	SS42487	Heat Sink	
63	SC41604-001	"	
64	SC41246-001	Caution Label	U only
65	SC40376-004	Service Warning Label	
66	BNS6045M	Screw	M6 x 45
67	SBSF2606M	Tap. Screw	M2.6 x 6
68	SCV0690-001	Tally Lamp Ass'y	8 V 100 mA
69	E2819B4	CRT	
70	SCV0666-001	Def. Yoke	
71	Not Available	Serial No. Plate	
72	LPSP3006Z	Screw	M3 x 6
73	SCV0515-202	VR	2 K CONT.
74	SCV0515-104	"	100 K BRIGHT
75	SC41679-005	Wire Ass'y	With connector CN 11 and CN 7, CN 8.
76	" -001	"	CN 2
77	" -003	"	CN 4
78	" -006	"	CN 5
79	" -004	"	CN 10
80	SC41701-004	Cushion	
81	SC41952-001	Sheet	
82	WLS6000M	Lock Washer	
83	SC20352-001	Base	
84	SC43545-001	Spring	
85	SC31068-001	Clamper	
86	WNS5000N	Washer	
87	SC43544-001	Lock Screw	
88	YRS3004M	Screw	M3 x 4
89	SC42485-004	Knob	
90	SC43548-001	Stopper	
91	SC43547-001	Spring	
92	PRE3020	Pin	M3 x 8
93	DPSP3008Z	Screw	
94	WAS3000N	Washer	
95	YFS5008N	Screw	M5 x 8
96	WBS2600N	Lock Washer	

## SECTION 6

# SCHEMATIC DIAGRAM AND CIRCUIT BOARDS

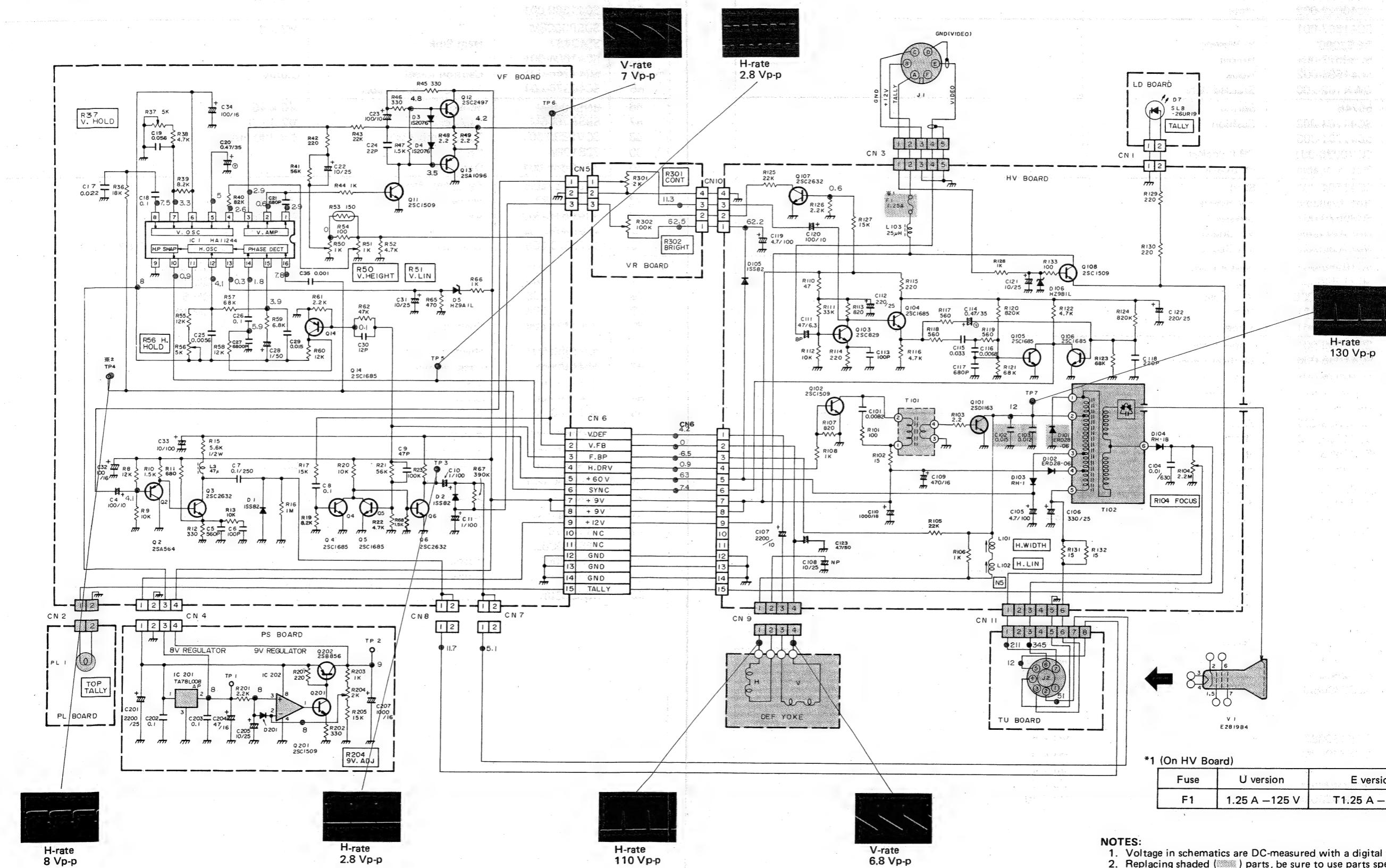
7

10

10

1

## 6.1 SCHEMATIC DIAGRAM



#### NOTES:

**NOTES:**

1. Voltage in schematics are DC-measured with a digital voltmeter.
2. Replacing shaded (████) parts, be sure to use parts specified for safety purposes.

A

B

C

D

E

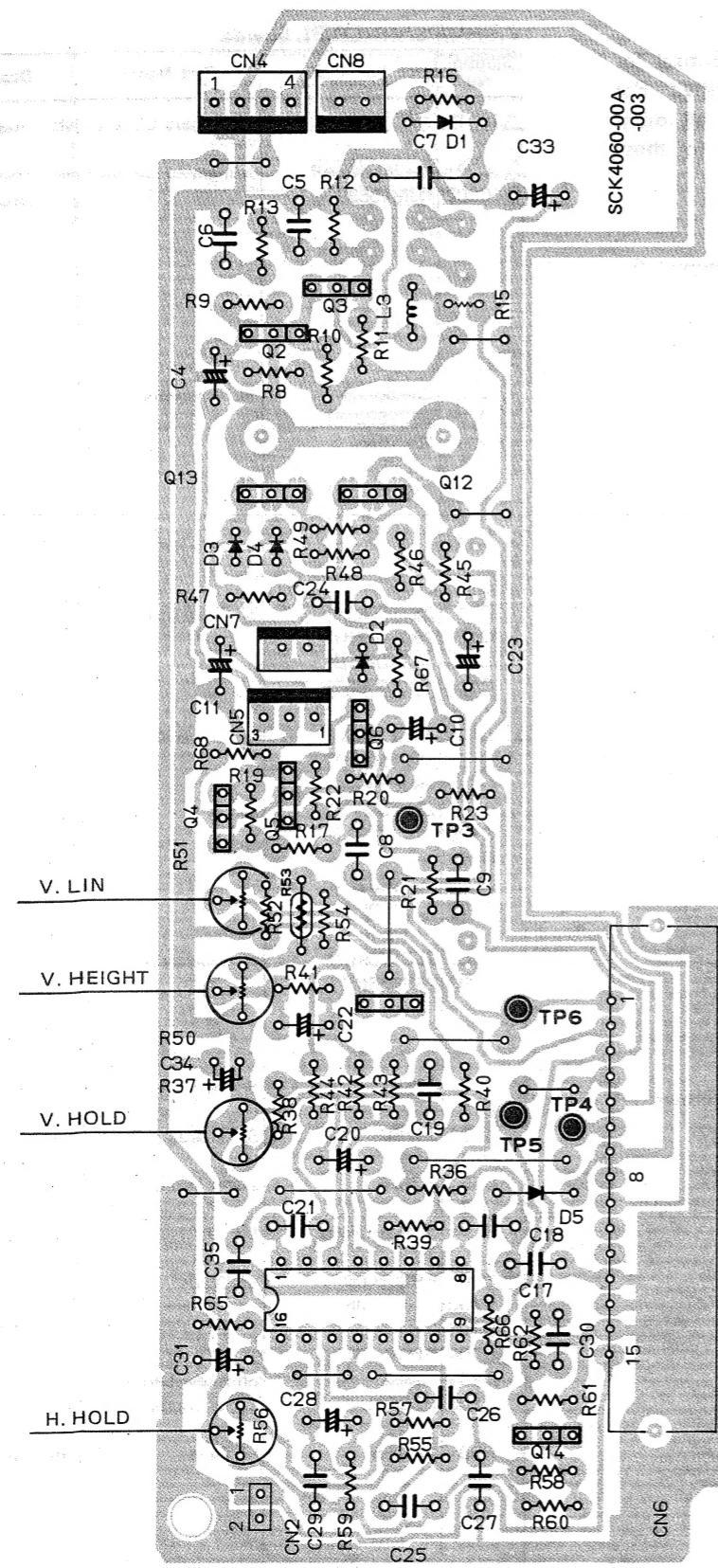
F

G

H

## 6.2 CIRCUIT BOARDS

### 6.2.1 VF circuit board



## SECTION 7 ELECTRICAL PARTS LIST

### 1. IMPORTANT SAFETY NOTICE

Parts identified by the  symbol are critical for safety. Replace with parts number specified. For maximum reliability and performance, all other replacement parts should be identical to those specified.

### 2. Abbreviations in this list are as follows:

RESISTORS – All resistance values are in ohms ( $\Omega$ ).

K : 1 000  
M : 1 000 000  
CR : Carbon Resistor  
Comp. R : Composition Resistor  
WR : Wire Wound Resistor  
OMR : Oxide Metal Film Resistor  
VR : Variable Resistor (Potentiometer)  
MFR : Metal Film Resistor  
FR : Fusible Resistor  
UNFR : Non-Flamable Resistor

CAPACITORS – All capacitance values are in  $\mu\text{F}$ , unless otherwise indicated.

P :  $\mu\text{F}$   
C Cap : Ceramic Capacitor  
E Cap : Electrolytic Capacitor  
FM Cap : Film Mica Capacitor  
MM Cap : Metalized Mylar Capacitor  
MP Cap : Metalized Paper Capacitor  
MY Cap : Mylar Capacitor  
NP Cap : Non-polar Capacitor  
PC Cap : Polycarbonate Capacitor  
PP Cap : Poly Pro Capacitor  
PS Cap : Polystyrol Capacitor  
T Cap : Tantalum Capacitor  
TR Cap : Trimmer Capacitor

Tolerances of resistors or capacitors are as follows:

M :  $\pm 20\%$   
K :  $\pm 10\%$   
J :  $\pm 5\%$   
G :  $\pm 2\%$   
F :  $\pm 1\%$

### VF/HV/PS/VR/LD/PL boards

Symbol No.	Part No.	Part Name	Description
 IC 1	HA11244	Integrated Circuit (M)	Hitachi
 IC201	TA78L008AP	Integrated Circuit (M)	Toshiba 8 V
 IC202	NJM4558D	"	JRC
Q 1	—	—	—
Q 2	2SA564(R)	Si. Transistor	—
Q 3	2SC2632(R)	"	—
Q 4	2SC1685	"	—
Q 5	"	"	—
Q 6	2SC2632(R)	"	—
Q 7	—	—	—
Q 8	—	—	—
Q 9	—	—	—
Q10	—	—	—
Q11	2SC1509(R)	Si. Transistor	—
Q12	2SC2497(Q)	"	—
Q13	2SA1096(Q)	"	—
Q14	2SC1685(R)	"	—
 Q101	2SD1163A	Si. Transistor	—
Q102	2SC1509(R)	"	—
Q103	2SC829(C)	"	—
Q104	2SC1685(R)	"	—
Q105	"	"	—
Q106	"	"	—
Q107	2SC2632(R)	"	—
Q108	2SC1509(R)	"	—
Q201	2SC1509(R)	Si. Transistor	—
Q202	2SB856(C)	"	—
D 1	1SS82	Shotkey Diode	—
D 2	"	"	—
D 3	1S1555	Si. Diode	—
D 4	"	"	—
D 5	HZ9A1L	Zener Diode	9 V
D 6	—	—	—
D 7	SLB-26UR19	L.E.D.	—
 D101	ERD28-06	Si. Diode	—
D102	" -06	"	—
D103	RH1	"	—
D104	RH1B	"	—
D105	1SS82	Shotkey Diode	—
D106	HZ9B1L	Zener Diode	9 V
D201	MA165	Si. Diode	Matsushita

Symbol No.	Part No.	Part Name	Description
R 1	—	—	—
R 2	—	—	—
R 3	—	—	—
R 4	—	—	—
R 5	—	—	—
R 6	—	—	—
R 7	—	—	—
R 8	QRD161J-123	C. Resistor	12 K 1/6 W J
R 9	" -103	"	10 K " "
R10	" -152	"	1.5 K " "
R11	" -681	"	680 " "
R12	" -331	"	330 " "
R13	" -103	"	10 K " "
R14	—	—	—
R15	QRD121J-562	C. Resistor	5.6 K 1/2 W J
R16	QRD161J-105	"	1 M 1/6 W "
R17	" -153	"	15 K " "
R18	—	—	—
R19	QRD161J-822	C. Resistor	8.2 K 1/6 W J
R20	" -103	"	10 K " "
R21	" -563	"	56 K " "
R22	" -472	"	4.7 K " "
R23	" -104	"	100 K " "
R24	—	—	—
R25	—	—	—
R26	—	—	—
R27	—	—	—
R28	—	—	—
R29	—	—	—
R30	—	—	—
R31	—	—	—
R32	—	—	—
R33	—	—	—
R34	—	—	—
R35	—	—	—
R36	QRD161J-183	C. Resistor	18 K 1/6 W J
R37	SCV0492-502	V. Resistor	5 K V. HOLD
R38	QRV141F-4701	M.F. Resistor	4.7 K 1/4 W F
R39	" -8201	"	8.2 K " "
R40	QRD161J-823	C. Resistor	82 K 1/6 W J
R41	" -563	"	56 K " "
R42	" -221	"	220 " "
R43	" -223	"	22 K " "
R44	" -102	"	1 K " "
R45	" -331	"	330 " "
R46	" -331	"	330 " "
R47	" -152	"	1.5 K " "
R48	" -2R2	"	2.2 " "
R49	" -2R2	"	2.2 " "
R50	SCV0492-102	V. Resistor	1 K V. HEIGHT
R51	" -102	"	1 K V. LIN.
R52	QRD161J-4R7	C. Resistor	4.7 1/6 W J
R53	PTH61-U151M	Posistor	150 (20°C)
R54	QRD161J-101	C. Resistor	100 1/6 W J
R55	QRV141F-1202	M.F. Resistor	12 K 1/4 W F
R56	SCV0492-502	V. Resistor	5 K H. HOLD
R57	QRV141F-6802	M.F. Resistor	68 K 1/4 W F
R58	QRD161J-123	C. Resistor	12 K 1/6 W J
R59	" -682	"	6.8 K " "
R60	" -123	"	12 K " "
R61	" -222	"	2.2 K " "
R62	" -473	"	47 K " "
R63	—	—	—
R64	—	—	—
R65	QRD161J-471	C. Resistor	470 1/6 W J

Symbol No.	Part No.	Part Name	Description
R66	QRD161J-102	C. Resistor	1 K 1/6 W J
R67	" -394	"	390K " "
R68	" -152	"	1.5K " "
R101	QRD161J-101	C. Resistor	100 1/6 W J
R102	" -150	"	15 " "
R103	" -2R2	"	2.2 " "
R104	QVZ3501-225	V. Resistor	2.2 M FOCUS
R105	QRD161J-223	C. Resistor	22 K 1/6 W J
R106	" -102	"	1 K " "
R107	" -821	"	820 " "
R108	" -102	"	1 K " "
R109	—	—	—
R110	QRD161J-470	C. Resistor	47 1/6 W J
R111	" -333	"	33 K " "
R112	" -103	"	10 K " "
R113	" -821	"	820 " "
R114	" -221	"	220 " "
R115	" -221	"	220 " "
R116	" -472	"	4.7 K " "
R117	" -561	"	560 " "
R118	" -561	"	560 " "
R119	" -561	"	560 " "
R120	" -824	"	820 K " "
R121	" -683	"	68 K " "
R122	" -472	"	4.7 K " "
R123	" -683	"	68 K " "
R124	" -824	"	820 K " "
R125	" -223	"	22 K " "
R126	" -222	"	2.2 K " "
R127	" -153	"	15 K " "
R128	" -102	"	1 K " "
R129	" -221	"	220 " "
R130	" -221	"	220 " "
R131	" -150	"	15 " "
R132	" -150	"	15 " "
R133	" -101	"	100 " "
R201	QRD161J-222	C. Resistor	2.2 K 1/6 W J
R202	" -331	"	330 " "
R203	" -102	"	1 K " "
R204	SCV0491-202	V. Resistor	2 K 9 V ADJ.
R205	QRD161J-153	C. Resistor	15 K 1/6 W J
R206	—	—	—
R207	QRD161J-221	C. Resistor	220 1/6 W J
R301	SCV0515-202	V. Resistor	2 K CONT.
R302	" -104	"	100 K BRIGHT
C 1	—	—	—
C 2	—	—	—
C 3	—	—	—
C 4	QER41AM-476	E. Cap	47 10 V
C 5	QCS11HJ-561	C. Cap	560 P 50 V J
C 6	" -101	"	100 P " "
C 7	GP32313-104	MY Cap	0.1 250 V
C 8	QFN41HJ-104	"	0.1 50 V J
C 9	QCS11HJ-470	C. Cap	47 P " "
C10	QETA2AM-105	E. Cap	1 100 V

Symbol No.	Part No.	Part Name	Description
C11	QETA2AM-105	E. Cap	1 100 V
C12			
C13			
C14			
C15			
C16			
C17	QFN41HJ-223	MY Cap	0.022 50 V J
C18	" -104	"	0.1 "
C19	" -563	"	0.056 "
C20	QEJ41CM-474	T. Cap	0.47 16 V
C21	QCS11HJ-681	C. Cap	680 P 50 V J
C22	QER41EM-106	E. Cap	10 25 V
C23	QETA1AM-107	"	100 10 V
C24	QCS11HJ-220	C. Cap	22 P 50 V J
C25	QFP32AJ-562	MY Cap	0.0056 100 V J
C26	QFN41HJ-104	"	0.1 50 V J
C27	" -682	"	6800 P "
C28	QER41HM-105	E. Cap	1 "
C29	QCS11HJ-153	C. Cap	0.015 P " J
C30	" -120	"	12 P "
C31	QER41EM-106	E. Cap	10 25 V
C32	QETA1CM-107	"	100 16 V
C33	QETA2AM-106	"	10 100 V
C34	QETA1CM-107	"	100 16 V
C35	QFN41HJ-102	MY Cap	0.001 50 V J
C36	QETAIHM-476	E. Cap	47 50 V
C101	QFN41HJ-822	MY Cap	0.0082 50 V J
△ C102	QFP32XK-153	P. Cap	0.015 630 V
△ C103	" -123	"	0.012 "
C104	" -103	"	0.01 "
C105	QETA2AM-475	E. Cap	4.7 100 V
C106	QETA1EM-337	"	330 25 V
C107	QETA1CM-228	"	2200 16 V
C108	SAV0011-002	"	10 25 V
C109	QETA1CM-477	"	470 16 V
C110	" -108	"	1000 "
C111	QEPC0JM-476	"	47 6.3 V
C112	QETA1EM-227	"	220 25 V
C113	QCS11HJ-101	C. Cap	100 P 50 V J
C114	QEJ41VM-474	T. Cap	0.47 35 V
C115	QFN41HJ-333	MY Cap	0.033 50 V J
C116	" -682	"	0.0068 "
C117	QCS11HJ-681	C. Cap	680 P "
C118	" -221	"	220 P "
C119	QETA2AM-475	E. Cap	4.7 100 V
C120	QETA1AM-107	"	100 10 V
C121	QER41EM-106	"	10 25 V
C122	QETA1EM-227	"	220 "
C123	QETA1HM-475	"	4.7 50 V
C201	QETA1EM-228	E. Cap	2200 25 V
C202	QFN41HK-104	MY Cap	0.1 50 V
C203	" -104	"	0.1 "
C204	QER41CM-476	E. Cap	47 16 V
C205	QER41EM-106	"	10 25 V
C206	QCS11HJ-470	C. Cap	47 P 50 V J
C207	QETA1CM-108	E. Cap	1000 16 V

Symbol No.	Part No.	Part Name	Description
L 1	-	-	-
L 3	SCV0331-470	Peaking Coil	47 $\mu$ H
L101	SAV0008-001	Width Coil	
L102	SCV0550-002	Linearity Coil	
L103	SCV0390-025	Coil	25 $\mu$ H
△ PL 1	SCV0690-001	Tally Lamp	8 V 100 mA
△ T101	SCV0667-001	F.B.T.	
△ T102	SA40305	H.D. Transformer	
△ F 1	QMF51U1-1R25	Fuse	1.25 A 125 V (for NTSC)
	QMF51A2-1R25	"	T1.25 A 250 V (for PAL)
CN 1	SS30662-002	Connector (socket)	
△ CN 2	SS30662-002	"	
△ CN 3	SS30662-005	"	
CN 4	SS30644-004	"	
CN 5	" -003	"	
CN 6	SCV0055-15S	"	
CN 6	SCV0070-015	"	
CN 7	SS30644-002	"	
CN 8	" -002	"	
△ CN 9	" -004	"	
CN10	" -004	"	
△ CN11	Refer to Page 6, 75		